If it should be desirable to again expose the tailings from tank D and trough B^1 to the action of atmospheric air, they can be conducted in any convenient way to a trough, like R, elevated by an elevator, like R′, and delivered onto a belt, like E, in tank D, where such particles as would float could be saved.

The shelves in receptacle L, instead of being horizontal, may be placed at an angle sufficient to discharge the particles of floating material as fast as such particles settle on such slanting shelves—say at an angle of seventy-five degrees—which will prevent agitation in the water in the main body of the tank nearly or quite as well as the horizontal shelves, taking care to have ample room for the water to pass away between the shelves.

In depositing the water, tailings, and floating material on the belt E, a small portion of fine tailings may, in the agitation caused by such deposit, pass off into tank D at the lower end of belt. Any such tailings will sink in the tank and pass off at stop-cock K.

This improvement is available with ores or tailings that are either in a wet or dry condition. When such materials are in a dry condition, they are to be scattered upon the water by sifting or otherwise near the surface, so as to fall upon the water with but little concussion. A part of the metallic portions will float, and most of the earthy portions will absorb moisture and sink. I therefore do not limit myself to any particular manner of supplying the material to be operated upon, or of causing the particles that are to be separated to float.

I do not claim a separating device in which the water and tailings from a stamp or other reducing-machine pass through a pipe to a vessel in which the particles of ore are to be gathered as they float, because in so doing the materials that may have floated are carried down under water and considerable sinks. By my improvement any particles that come to the surface are kept up, so that they may not sink until they reach the place where they are saved.

I do not herein lay claim to the means employed for the conduct of the method, but reserve the right to apply for a separate patent thereon.

I claim as my invention—

The method herein specified of saving floating materials in ore-separation, consisting in passing the water and floating materials along in an open unobstructed sheet from the table or separating-machine with but little agitation of the water, thus preventing such materials from being carried beneath the surface and subsiding, then causing the water and floating materials to plunge or fall into a water-receptacle, and then retaining said floating materials in said receptacle until they lose their floating power and sink, substantially as specified.

Signed by me this 20th day of June, A. D. 1885.

HEZEKIAH BRADFORD.

Witnesses:
GEO. T. PINCKNEY,
WALLACE L. SERRELL.